

Name:

Date:

Period:

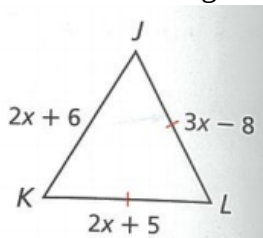
OPTIONAL Practice Test

1. In $\triangle RST$, $RS = 2x + 10$, $ST = 3x - 2$, and $RT = \frac{1}{2}x + 28$. If $\triangle RST$ is equiangular, what is the value of x ?

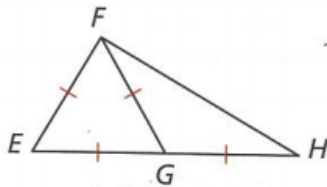
2. Which of the following best describes a triangle with vertices having coordinates $(-1, 0)$, $(0, 3)$ and $(1, -4)$?

- a. Equilateral
- b. Isosceles
- c. Right
- d. scalene
- e. equiangular

3. Find the side lengths of $\triangle JKL$.



4. Classify each triangle by its side lengths AND angle measures.

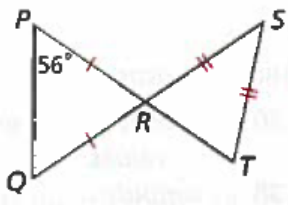


a. $\triangle EFG$

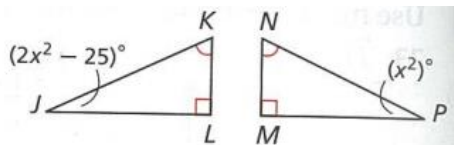
b. $\triangle FGH$

c. $\triangle EFH$

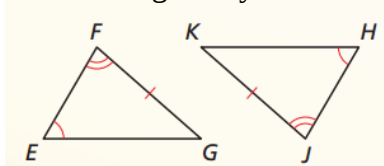
5. In the figure below, find $m\angle S$.



6. Find $m\angle N$.

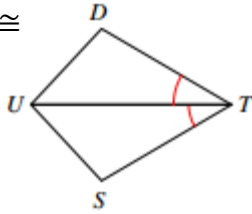


7. Write a congruency statement for the triangles.

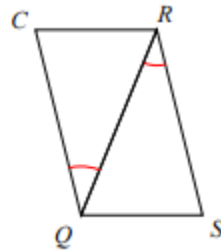


8. State the additional information that is required in order to know that the triangles are congruent for the reason given.

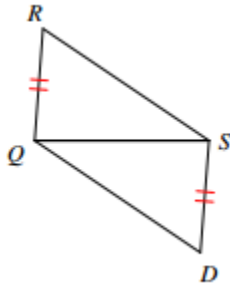
a. $AAS \cong$



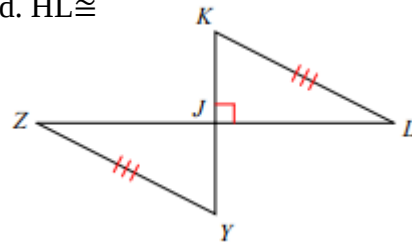
b. $ASA \cong$



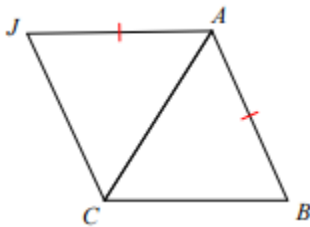
c. $SAS \cong$



d. $HL \cong$

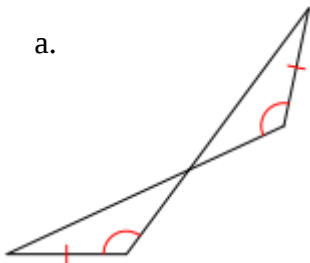


e. $SSS \cong$

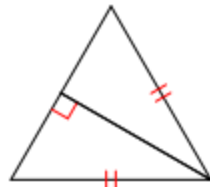


9. Determine whether you can conclude that the triangles are congruent. If you can, state the theorem used and write a congruency statement. If you cannot conclude that the triangles are congruent, say “not enough information.”

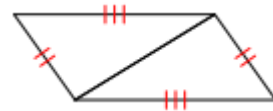
a.



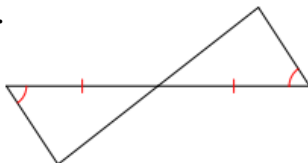
b.



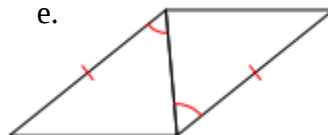
c.



d.



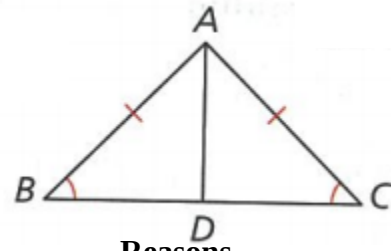
e.



f.



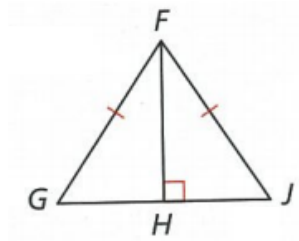
10. **Given:** $\angle B \cong \angle C$, $\overline{AB} \cong \overline{AC}$ and $\overline{AD}$ is the bisector of $\angle BAC$
Prove: D is the midpoint of $\overline{BC}$



Statements

Reasons

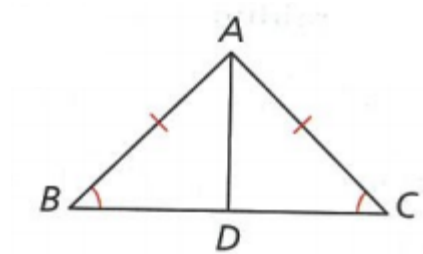
11. **Given:** $\overline{FG} \cong \overline{FJ}$ and $\overline{FH} \perp \overline{GJ}$
Prove: $\triangle FGH \cong \triangle FJH$



Statements

Reasons

12. **Given:** $\angle B \cong \angle C$, $\overline{AB} \cong \overline{AC}$ and $\overline{AD}$ is the bisector of $\angle BAC$
Prove: $\overline{AD} \perp \overline{BC}$



Statements	Reasons